DOCKET SEARCH

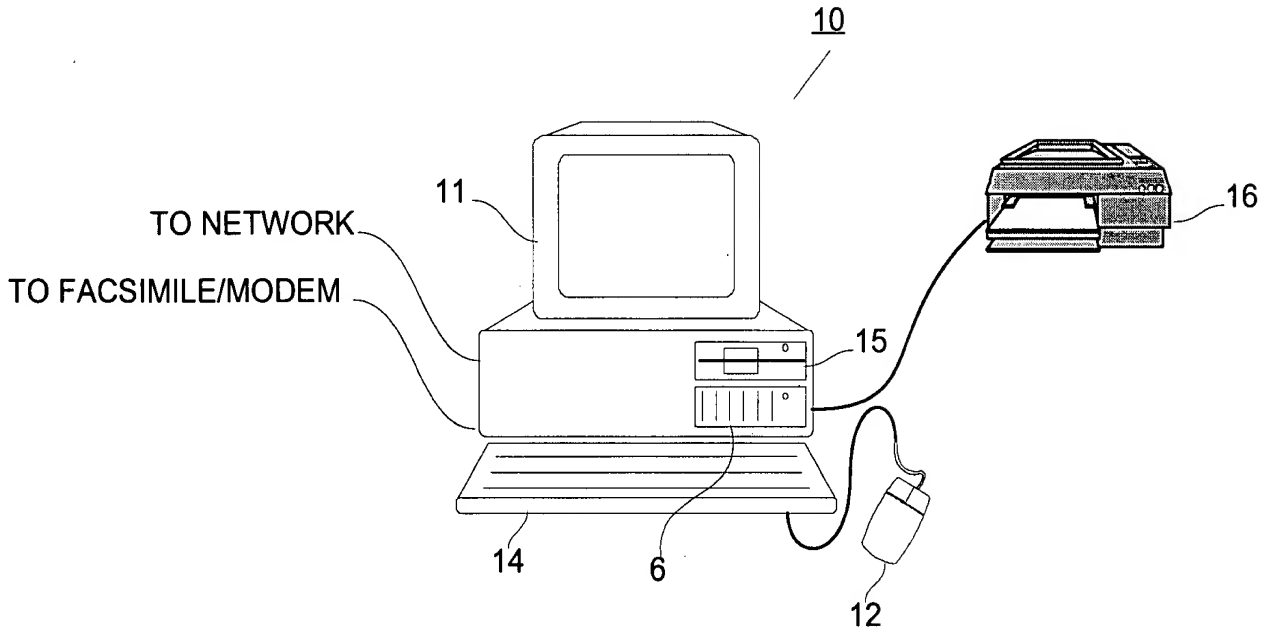

Fig. 1

DOT280" STEEn960

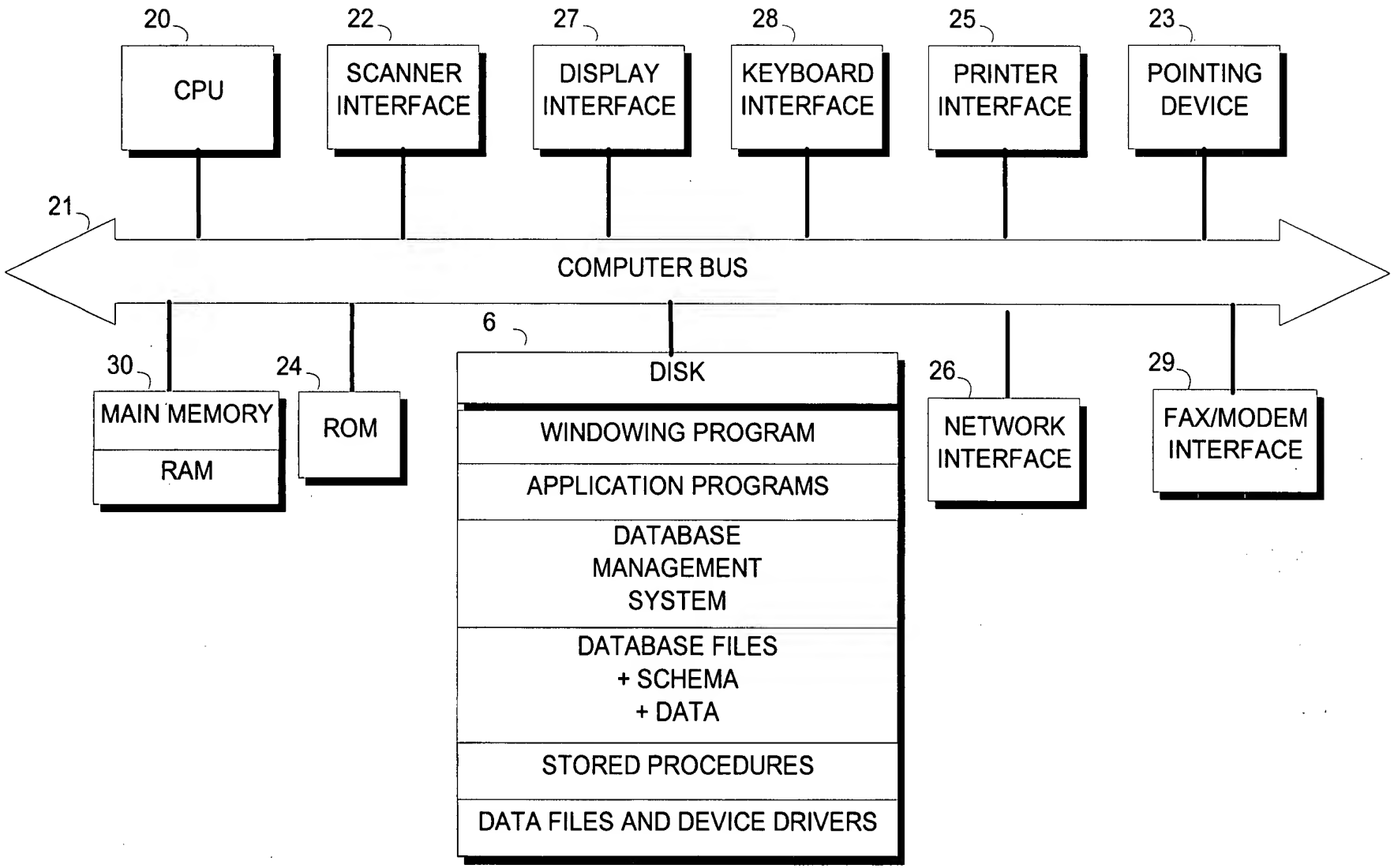

Fig. 2

300

Products Table			
Product ID	Description	Manufacturer	Category
1	ACME Printer	1	1
2	ACME Computer	1	2
3	Apex Computer	2	2
4	Best Printer	3	1
5	Apex Monitor	2	3

310 311 312 313 314

303

Manufacturers Bit Vector Index	
Manufacturer ID	Bit Vector
1	1 1 0 0 0
2	0 0 1 0 1
3	0 0 0 1 0

330 331 332

301

Manufacturers Table	
Manufacturer ID	Manufacturer
1	ACME
2	Apex
3	Best

320 321 322

302

Categories Table	
Cateogory ID	Category
1	Printer
2	Computer
3	Monitor

320 321 322

304

Categories Bit Vector Index	
Category ID	Bit Vector
1	1 0 0 1 0
2	0 1 1 0 0
3	0 0 0 0 1

340 341 342

Fig. 3

DO-280 STEAD

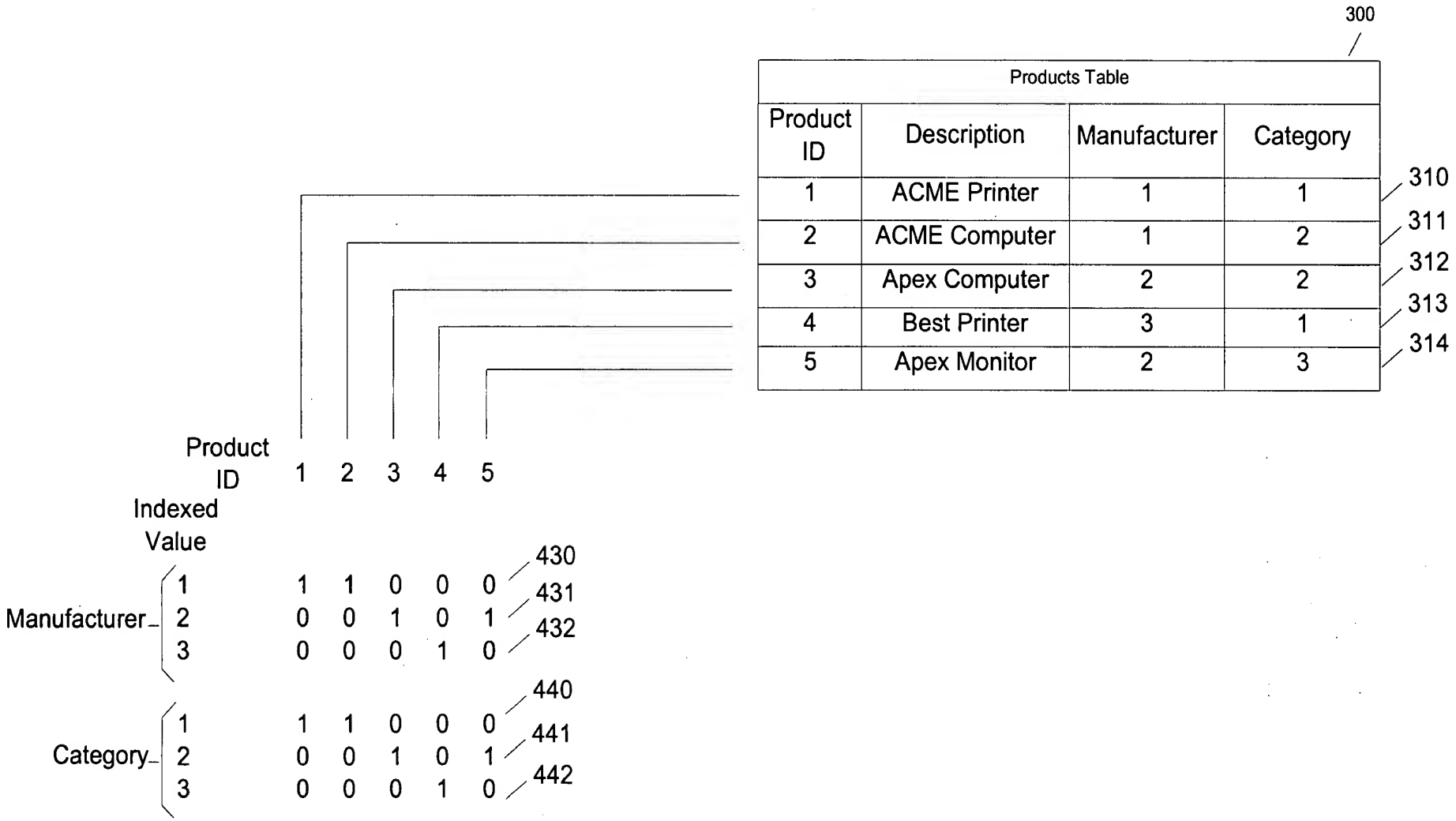

Fig. 4

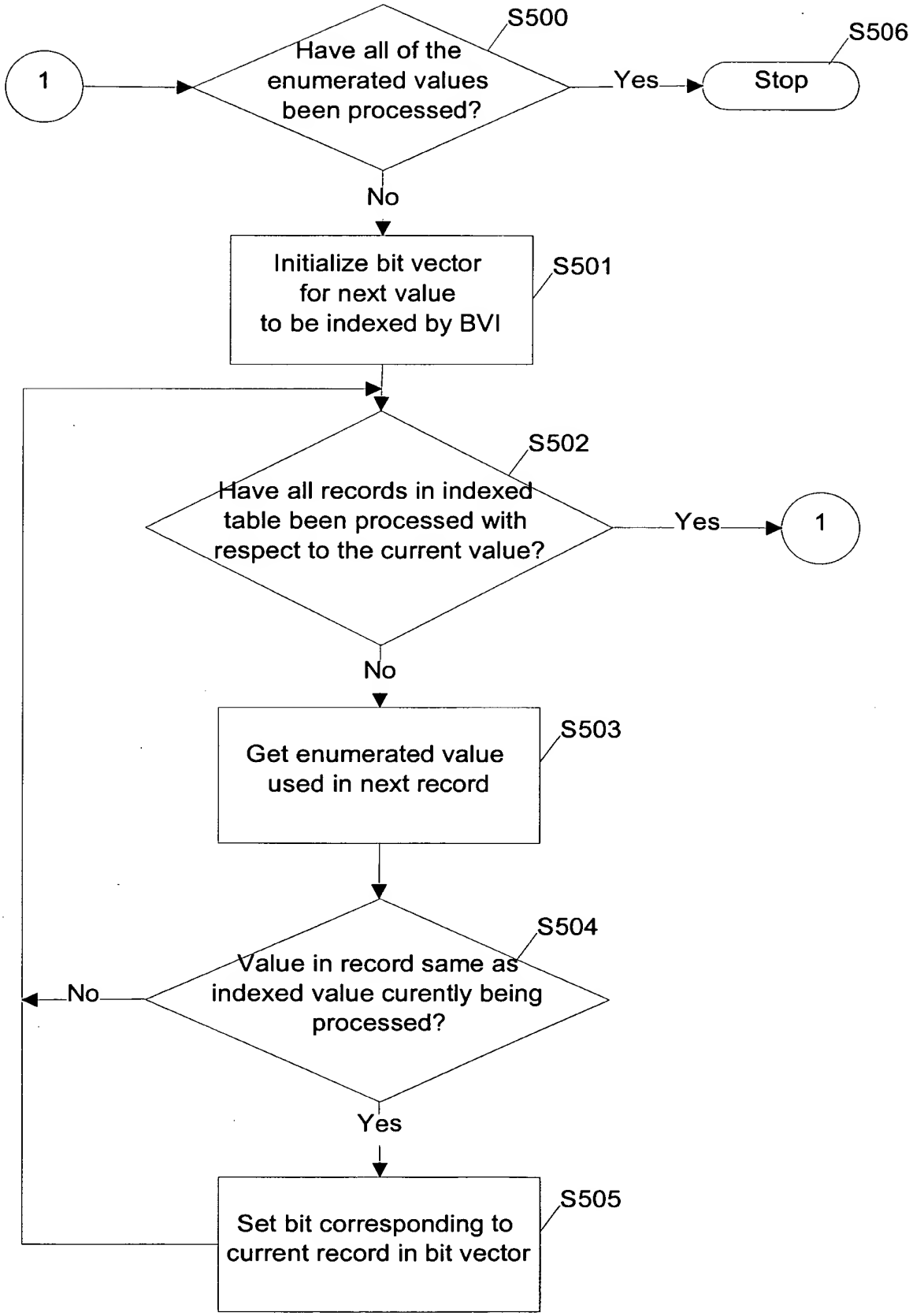
S500
Have all of the enumerated values been processed?
1
Yes
S506
Stop
No
Initialize bit vector for next value to be indexed by BVI
S501
S502
Have all records in indexed table been processed with respect to the current value?
Yes
1
No
Get enumerated value used in next record
S503
S504
Value in record same as indexed value curently being processed?
No
Yes
Set bit corresponding to current record in bit vector
S505

Fig. 5

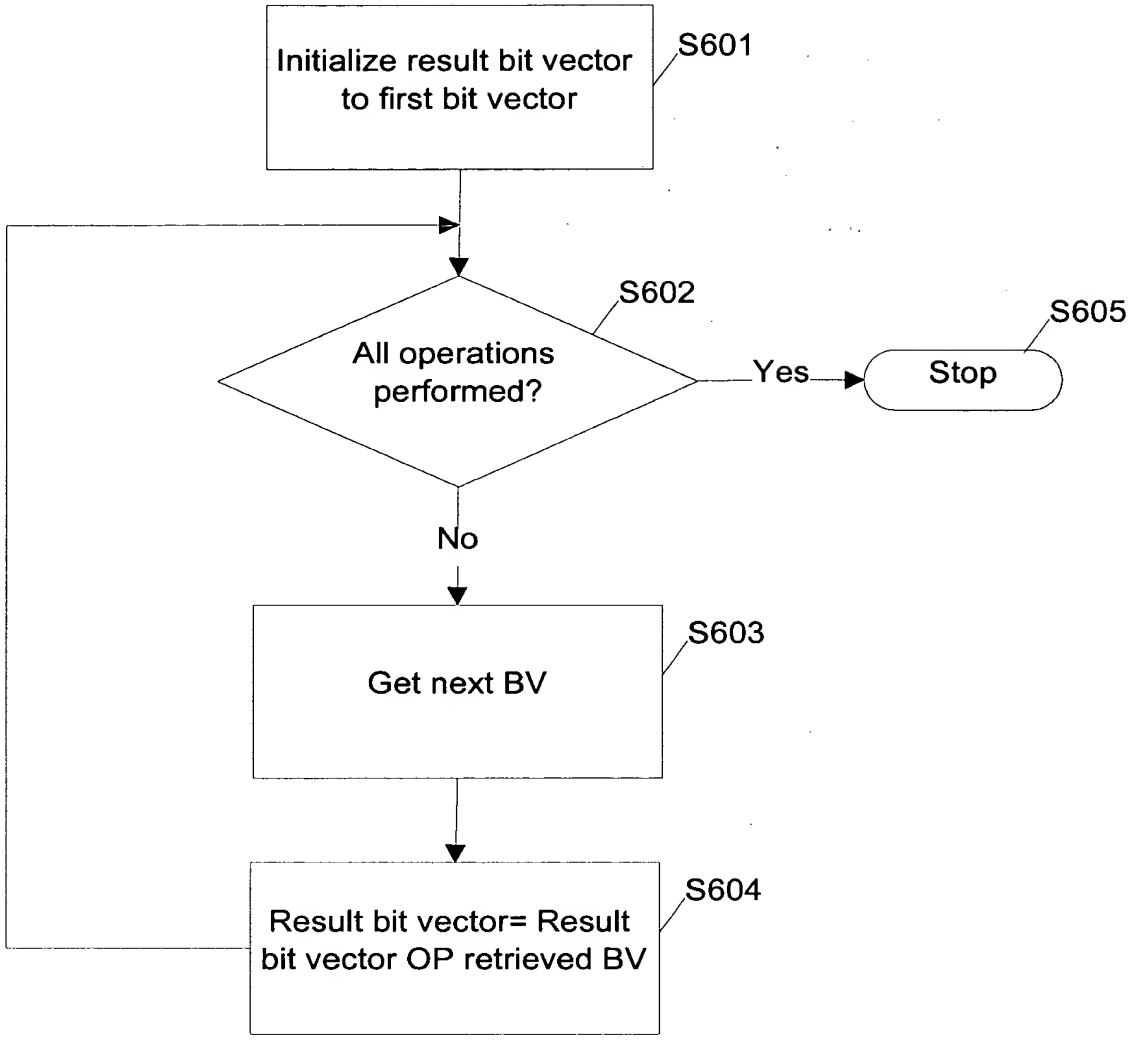
Initialize result bit vector to first bit vector
S601
All operations performed?
S602
Yes
Stop
S605
No
Get next BV
S603
Result bit vector= Result bit vector OP retrieved BV
S604

Fig. 6

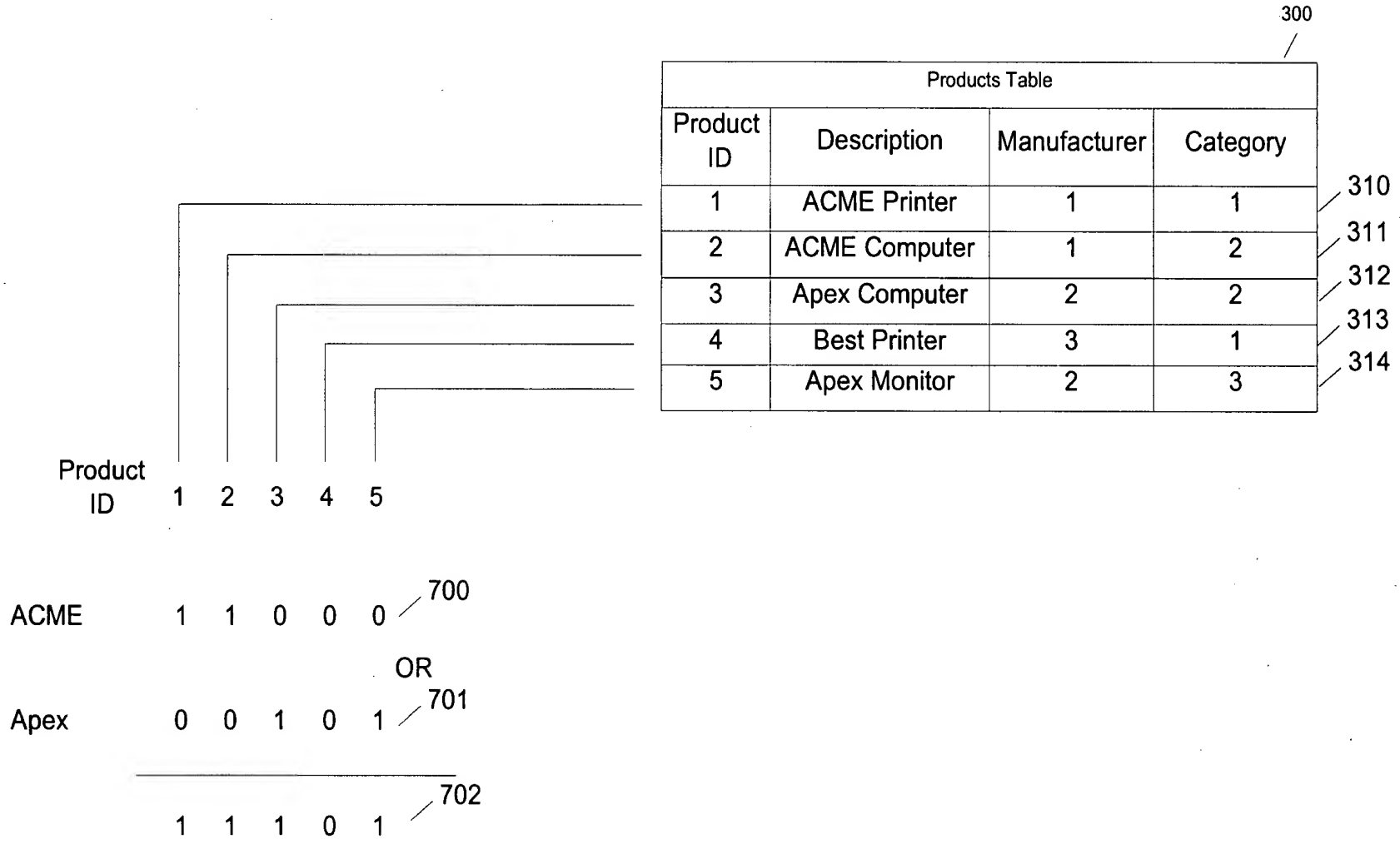
300
Products Table
Product ID
Description
Manufacturer
Category
1
ACME Printer
1
1
2
ACME Computer
1
2
3
Apex Computer
2
2
4
Best Printer
3
1
5
Apex Monitor
2
3
310
311
312
313
314
Product ID
1 2 3 4 5
ACME
1 1 0 0 0
700
OR
Apex
0 0 1 0 1
701
1 1 1 0 1
702

Fig. 7A

DO NOT REMOVE

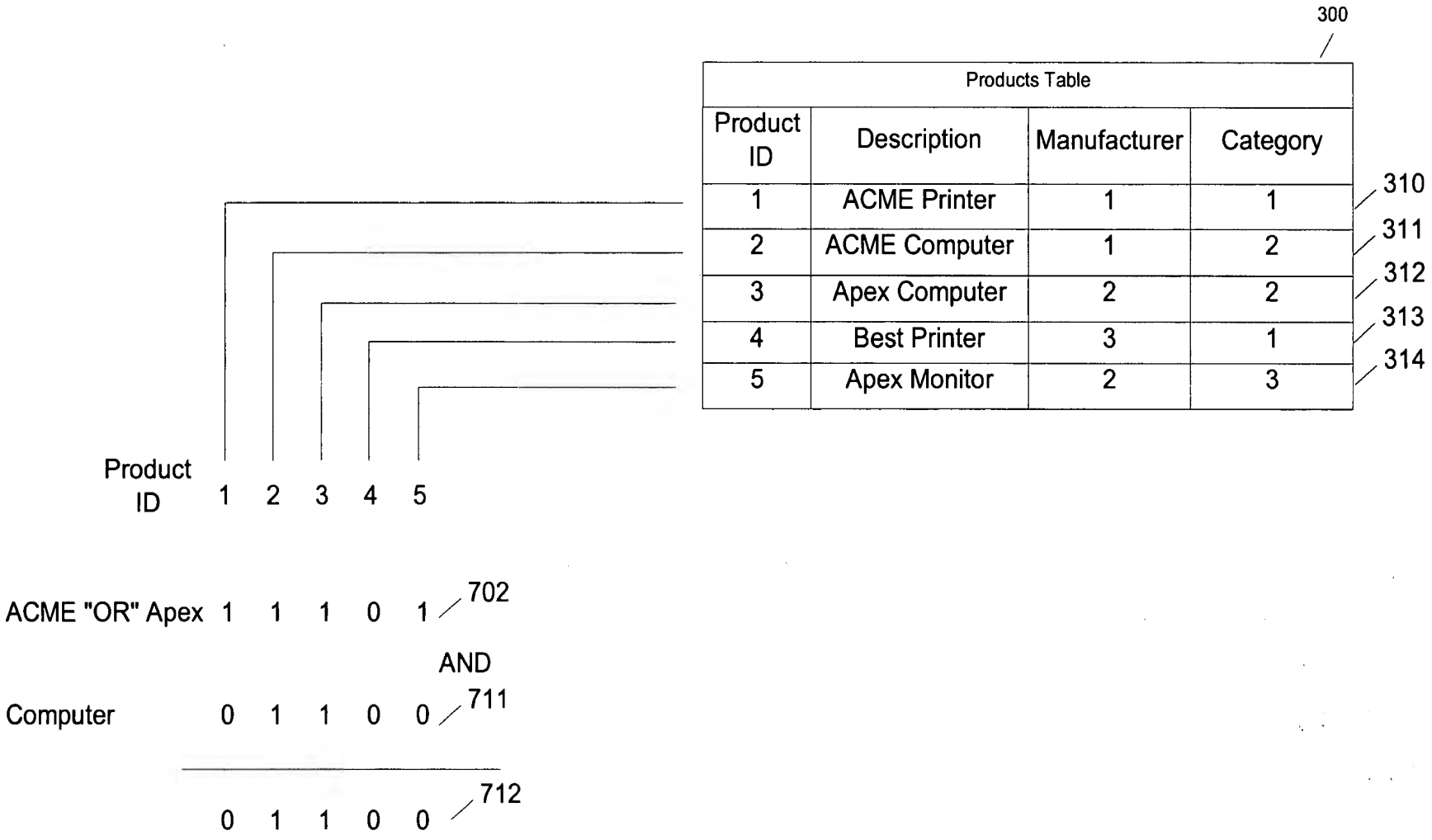

Fig. 7B

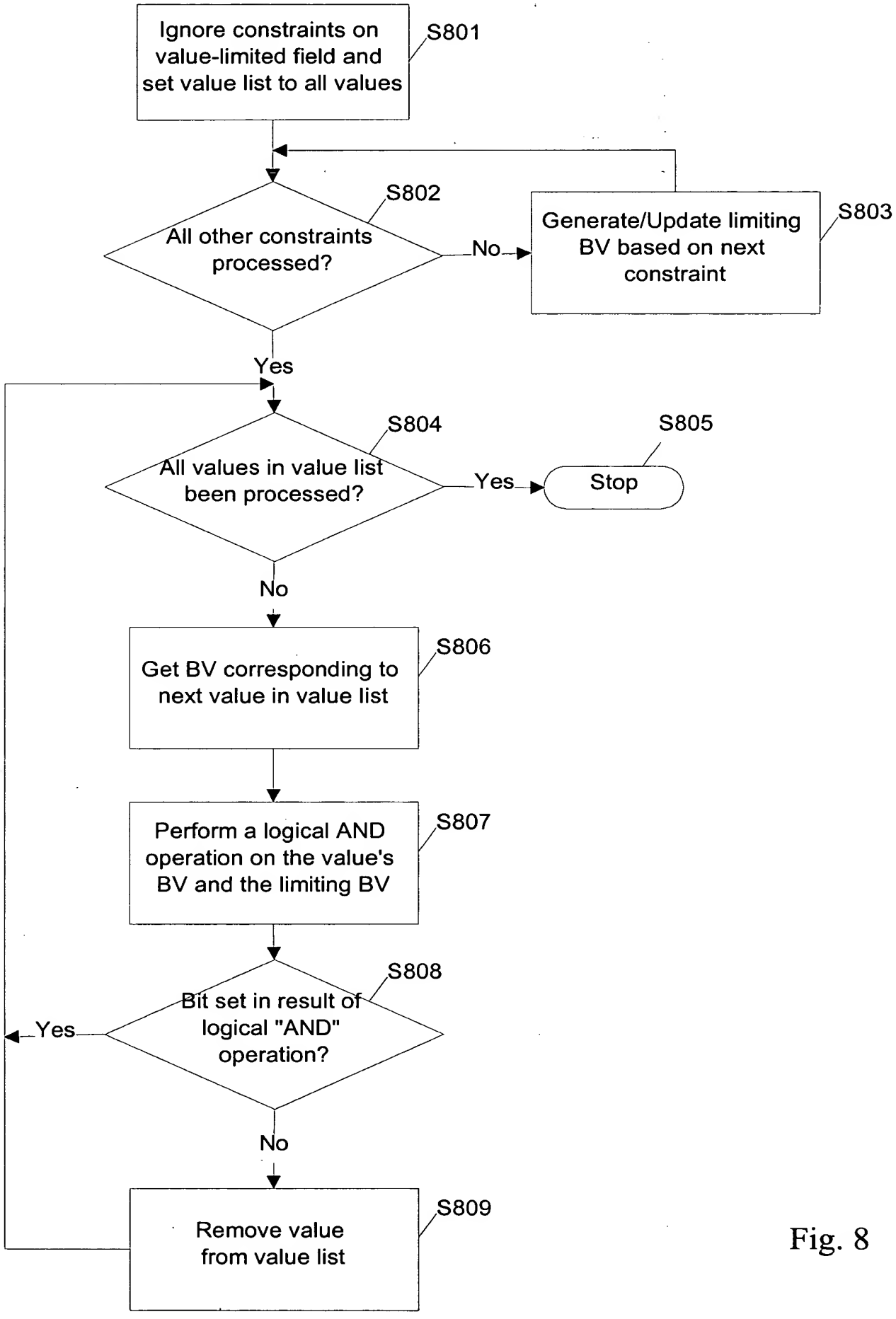
Ignore constraints on value-limited field and set value list to all values
S801
All other constraints processed?
S802
No
Generate/Update limiting BV based on next constraint
S803
Yes
All values in value list been processed?
S804
Yes
Stop
S805
No
Get BV corresponding to next value in value list
S806
Perform a logical AND operation on the value's BV and the limiting BV
S807
Bit set in result of logical "AND" operation?
S808
Yes
No
Remove value from value list
S809

Fig. 8

DOT360 STE4360

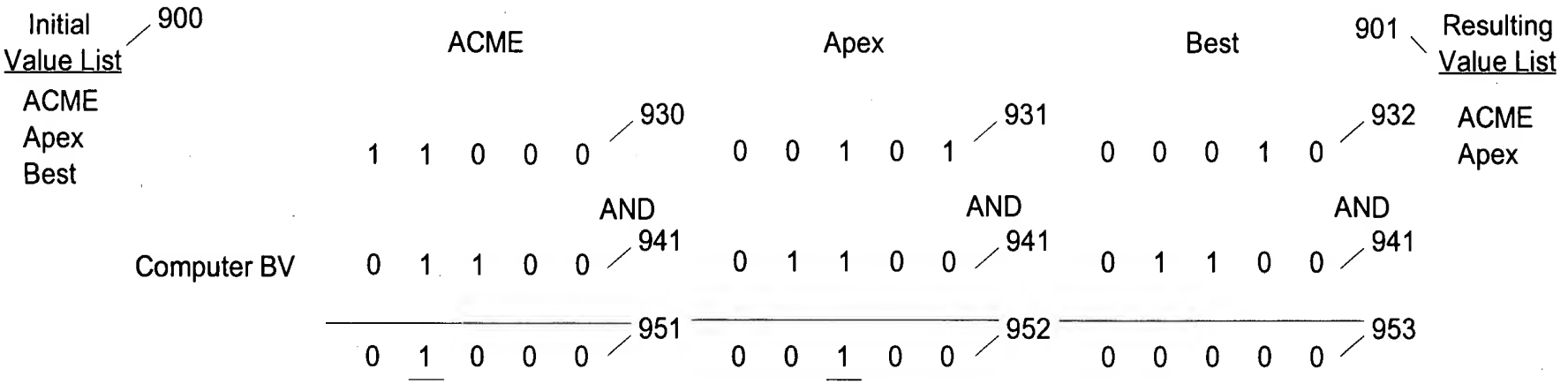

Fig. 9A

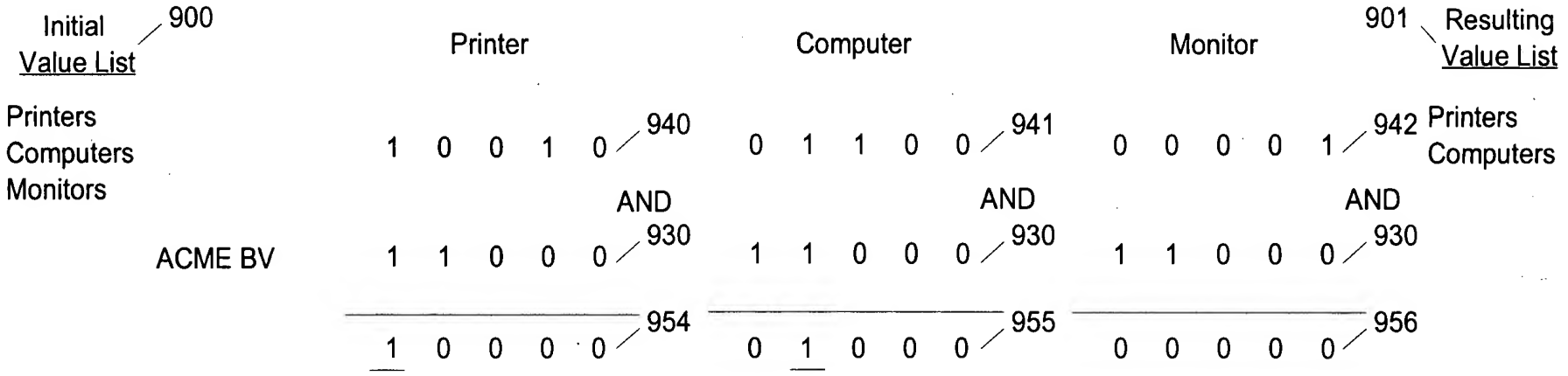

Fig. 9B

1000

CategoryID-to-ManufacturerID Bit Vector Index			
Manufacturer ID	Bit Vector		
1	1	0 (1014)	1
2	1	1 (1012)	0
3	0	1	0

1001

ManufacturerID-to-CategoryID Bit Vector Index			
Category ID	Bit Vector		
1	1	1	0
2	0 (1015)	1 (1013)	1
3	1	0	0

Category ID = 1	1	0	1	1	0	1340
Cagegory ID = 2	0	1	0	0	0	1341

Fig. 10